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**COUNSEL FOR  
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IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MONTANA  
BILLINGS DIVISION

SIERRA CLUB and MONTANA  
ENVIRONMENTAL INFORMATION  
CENTER,

Plaintiffs,

VS.

PPL MONTANA LLC, AVISTA CORPORATION, PUGET SOUND ENERGY, PORTLAND GENERAL ELECTRIC COMPANY, NORTHWESTERN CORPORATION, PACIFICORP.

Defendants.

Case No: CV 13-32-BLG-DLC-JCL

**DEFENDANTS' MEMORANDUM IN  
SUPPORT OF MOTION FOR PARTIAL  
SUMMARY JUDGMENT REGARDING  
PLAINTIFFS' USE OF THE "ACTUAL-  
TO-POTENTIAL" EMISSIONS TEST**

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- Exhibit 1 Declaration of Jerry L. Golden in Support of Defendants' Motion for Partial Summary Judgment Regarding Plaintiffs' Use of the "Actual-to-Potential" Emissions Test
- Exhibit 2 Expert Report of Marshall "Scott" Trantham, dated September 5, 2014
- Exhibit 3 Rebuttal Report of Marshall "Scott" Trantham, dated December 22, 2014
- Exhibit 4 Responsive Expert Report of Jerry L. Golden, dated November 14, 2014
- Exhibit 5 Letter from T. Cassidy, WEPCO, to J. Reynolds, Public Service Commission of Wisconsin, dated July 8, 1987
- Exhibit 6 Letter from J. Boston, WEPCO, to G. McCutchen, EPA, dated May 19, 1988
- Exhibit 7 Memorandum from R. Cullen and D. Dasho to Public Service Commission of Wisconsin, dated March 7, 1988
- Exhibit 8 Letter from D. Ziege, Wis. DNR, to Joe Paisie, EPA, dated February 5, 1988
- Exhibit 9 Memorandum from D. Clay, EPA Acting Assistant Administrator for Air and Radiation, to D. Kee, EPA, dated September 9, 1988
- Exhibit 10 Letter from L. Thomas, EPA Administrator, to J. Boston, WEPCO, dated October 14, 1988
- Exhibit 11 Letter from William Rosenberg, Asst. Administrator of EPA's Off. of Air and Radiation, to John Boston, dated June 8, 1990
- Exhibit 12 57 Fed. Reg. 32,314 (July 21, 1992)
- Exhibit 13 Excerpts from the deposition transcript of Marshall "Scott" Trantham taken on February 4, 2015
- Exhibit 14 Letter from J. Parker, PPL Montana, LLC Manager Environmental Engineering Dept., to J. Merkel, Montana Department of Environmental Quality Air Resources Management Bureau, dated February 3, 2005

- Exhibit 15 Letter from J. Merkel, Montana Department of Environmental Quality Air Resources Management Bureau, to J. Parker, PPL Montana, LLC Manager Environmental Engineering Dept., dated May 19, 2005
- Exhibit 16 Email from George Hays, counsel for Plaintiffs, to Joshua Frank, counsel for Defendants, on March 30, 2015
- Exhibit 17 Excerpts from the Expert Report of Jerry Golden, dated September 9, 2014, corrected January 20, 2015

## I. INTRODUCTION

Defendants PPL Montana, LLC, Avista Corporation, Puget Sound Energy, Inc. Portland General Electric Company, NorthWestern Corporation d/b/a NorthWestern Energy, and PacifiCorp (collectively “Defendants”) respectfully submit this Memorandum in Support of their Motion for Summary Judgment regarding Plaintiffs’ attempt to apply the “actual-to-potential” emissions test to three of the four projects remaining at issue in this case.

Plaintiffs allege that maintenance projects performed by Defendants at the Colstrip Steam Electric Station (“Colstrip”) were violations of the Prevention of Significant Deterioration (“PSD”) provisions of the Clean Air Act and the Montana State Implementation Plan. Although Plaintiffs previously alleged that as many as 64 such projects were PSD violations, Plaintiffs have since withdrawn their claims as to all but four projects: (i) replacement of the Unit 3 reheater in 2001 (the “Unit 3 Reheater Replacement”); (ii) replacement of the Unit 1 economizer in 2012 (the “Unit 1 Economizer Replacement”); (iii) replacement of the Unit 1 HP/IP turbine in 2006 (the “Unit 1 HP/IP Turbine Replacement”); and (iv) replacement of the Unit 4 HP turbine in 2006 (the “Unit 4 HP Turbine Replacement”).<sup>1</sup>

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<sup>1</sup> See Br. in Supp. of Pls.’ Mot. for Partial Summ. [J.] Regarding Routine Maintenance Repair and Replacement (Doc. 162) at 2 n.1 (Plaintiffs confirm that these four projects “are the only remaining projects at issue in this case”).



In denying Plaintiffs’ motion for summary judgment last August, this Court expressly rejected Plaintiffs’ position that the “actual-to-potential” test for emissions must be applied to the projects in this case. August 13, 2014 Order (Doc. 129) at 9-10 (“August 13 Order”).<sup>2</sup> This Court held that, with one narrow exception, the actual-to-projected-actual emissions test applies here. *Id.* at 7.<sup>3</sup> The actual-to-potential test applies *only* if Plaintiffs can prove that a project is so significant as “to support a finding that normal operations have not begun” before the project. *Id.* (quoting 57 Fed. Reg. 32,314, 32,317 (July 21, 1992) (the “WEPCO Rule” and “WEPCO Rule Preamble”)). For ease of reference, Defendants refer to this test herein as the “begun normal operations” test.

Based on the expert reports and testimony of Plaintiffs’ expert on the begun normal operations issue, Marshall “Scott” Trantham, Plaintiffs seek to apply the actual-to-potential test to three of the four remaining projects—the Unit 1

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<sup>2</sup> As the Court observed, the actual-to-potential “test measures a unit’s ‘potential to emit’ and ‘compares a plant’s actual past emissions with its potential future emissions.’” August 13 Order at 6 n.1 (quoting *U.S. v. Alabama Power Co.*, 372 F. Supp. 2d 1283, 1299 n.30 (N.D. Ala. 2005)). Under that test, the unit’s “potential future emissions are calculated by assuming that the [unit] will operate at its full capacity, 24 hours a day, 365 days per year.” *Id.*

<sup>3</sup> The actual-to-projected-actual test “compares a unit’s past actual emissions to ‘estimated future actual emissions based on all of the available facts in the record.’” *Id.* at 6 n.2 (quoting Ltr. from William Rosenberg, Asst. Adminstr. of EPA’s Off. of Air and Radiation, to John Boston 7-8 (June 8, 1990) (“WEPCO Remand Letter”) (attached to Declaration of Christine Wyman (“Wyman Decl.”) as Ex. 12)).

Economizer Replacement, the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP Turbine Replacement (collectively, the “Colstrip Projects”)—by arguing that those projects were so significant that Unit 1 and Unit 4, respectively, cannot be said to have begun normal operations.<sup>4</sup> As explained below, because Plaintiffs cannot satisfy their burden to show that Units 1 and 4 had not begun normal operations, Defendants are entitled to summary judgment that the actual-to-projected-actual test, not the actual-to-potential test, must be applied to the Colstrip Projects. Further, because Plaintiffs have already withdrawn all claims that they could prove significant emissions increases under any emissions test other than the actual-to-potential test for the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP Turbine Replacement,<sup>5</sup> Defendants are entitled to summary judgment on the claims relating to those two projects (Claims 13, 14, 16 & 17).

In *Wisconsin Electric Power Company v. Reilly*, 893 F.2d 901 (7th Cir. 1990) (“*WEPCO*”), the Seventh Circuit rejected the Environmental Protection

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<sup>4</sup> Mr. Trantham does not opine that the fourth project remaining in this case—the Unit 3 Reheater Replacement—was so significant that Unit 3 cannot be said to have begun normal operations. Trantham Dep. at 497:15-20 (relevant portions attached to Wyman Decl. as Ex. 13). Accordingly, Plaintiffs concede that the actual-to-projected-actual test must be applied to the Unit 3 Reheater Replacement.

<sup>5</sup> E-mail from George Hays to Joshua Frank et al. (March 30, 2015) (attached to Wyman Decl. as Ex. 16) (“With respect to the turbine projects, we will pursue those claims relying solely on the actual to potential test to show a significant net emissions increase.”).

Agency's ("EPA") attempt to apply the actual-to-potential test to a massive replacement project that was unprecedented in size, cost and scope.<sup>6</sup> The *WEPCO* court held that the actual-to-potential test *cannot* be applied to a replacement project where the applicable unit has an established history of operations before the replacement, which can be used to project emissions after the project. In other words, the fundamental purpose of the begun normal operations test is to ensure that, where a unit has an established operating history, that history is used as a realistic assessment of future emissions after a project, rather than use the unrealistic assumption (as the actual-to-potential test does) that the unit will be running at its full potential capacity all the time in the future (*i.e.*, running continuously at maximum capacity 24 hours per day, 365 days per year). The *WEPCO* court expressly held that a unit undergoing a "like-kind replacement"—which the court used to define the massive *WEPCO* project—is *per se* considered to have begun normal operations, *i.e.*, it has an established history of operations from which post-project emissions can be estimated. *WEPCO*, 893 F.2d at 917. Thus, the actual-to-potential test cannot apply to a like-kind replacement, because a

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<sup>6</sup> As this Court has noted, "[s]ome changes, like 'routine maintenance, repair, and replacement' [RMRR], are not considered 'physical changes' for purposes of establishing a 'major modification.'" May 22, 2014 Findings & Recommendation (Doc. 112) at 44-45 (citing Mont. Admin. R. 18.8.801(20(b)(i); 40 C.F.R. § 52.21(b)(2)(iii) (1981)). In *WEPCO*, EPA took the position that the actual-to-potential test could be applied to any non-routine replacement project. See *WEPCO*, 893 F.2d at 917.

like-kind replacement would not change the established operation of the unit to the point that one could not project the unit's future emissions based on its historical, pre-project emissions. *Id.*

In response to the *WEPCO* decision, EPA issued the *WEPCO* Rule and *WEPCO* Rule Preamble, adopting the Seventh Circuit's view that there is no basis to apply the actual-to-potential test to a unit with an established operating history and that a unit undergoing a like-kind replacement is automatically deemed to *have* begun normal operations. 57 Fed. Reg. 32,314, 32,317 (July 21, 1992) (attached to Wyman Decl. as Ex. 12).<sup>7</sup> As this Court observed in the August 13 Order, EPA also made clear that “‘like-kind replacement[s]’ include ‘the replacement of components at an emissions unit with the same (*or functionally similar*) components.’” August 13 Order at 9 n.3 (emphasis added) (quoting *WEPCO* Remand Letter). That is because the same or a functionally similar replacement does not change the established operation of the unit to the point that one could not project future emissions based on the unit's historical, pre-project operations.

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<sup>7</sup> While EPA confirmed that like-kind replacements are *per se* deemed to have begun normal operations, EPA also made clear that, even if a project is not a like-kind replacement, the unit at issue still may be deemed to have begun normal operations. 57 Fed. Reg. at 32,317 (stating that “[a]t least for changes that are ‘like kind replacements,’ ‘normal operations’ have begun, and the actual-to-potential test is impermissible”) (emphasis added) (Wyman Decl. Ex. 12). In other words, EPA recognized that, even for a project that is more significant than a like-kind replacement (for example, more significant than the *WEPCO* project), one may still be able to predict post-project emissions based on the unit's pre-project operations, and thus, there would be no basis to apply the actual-to-potential test.

In light of these standards, the basis for this Motion is simple. First, Mr. Trantham's opinions ignore the fundamental purpose of the begun normal operations test—he fails to opine that, prior to the Colstrip Projects, one could not have projected the future operations of Units 1 and 4 based on the historical, pre-project operations of those units. In fact, as discussed below, he admitted just the opposite—in his experience, such projections of future performance *could be made*. That admission is fully consistent with the opinions of Defendants' own expert on the begun normal operations issue, Jerry Golden, who opines that, prior to each of the Colstrip Projects, one *could* have projected future, post-project operations based on the historical, pre-project operations of Units 1 and 4. Mr. Golden's opinions on that critical issue stand unchallenged by Plaintiffs. Accordingly, there is agreement that the projects in question were not so significant as to interfere with the ability to rely on historical operations to project future emissions rather than assuming continuous 24-hour, 365-day operation.

Second, Mr. Trantham's analysis nowhere disputes that the replacements in question were “functionally similar,” which is the standard adopted by EPA as reflected in this Court's August 13 Order. *See* Doc. 129 at 9 n.3. This is consistent with his agreement that historical operations could be relied upon to project future emissions, so that there is no need to assume year-round continuous operation. Rather than contesting whether the replacement is “functionally similar,” Mr. Trantham opines only that an *identical* replacement can be like kind, and contends

unremarkably that the projects in question were not in fact completely *identical*. But of course that observation is not relevant to whether Units 1 and 4 had begun normal operations, since it is uncontested that the replacements were functionally similar.

Third, in comparing the Colstrip Projects to the massive and unprecedented *WEPCO* project—which the Seventh Circuit and EPA agreed was a like-kind replacement performed on units that had begun normal operations—no reasonable trier of fact could conclude that the much less significant Colstrip Projects were not also like-kind replacements or that Colstrip Units 1 and 4 had not also begun normal operations. Indeed, every other court since *WEPCO* considering projects at electric generating units that were at least as significant as the Colstrip Projects has agreed with *WEPCO* and applied the actual-to-projected-actual test instead of the actual-to-potential test. Based on this unanimous precedent, even accepting all of Plaintiffs’ allegations about the Colstrip Projects as true (which Defendants do solely for purposes of this Motion), there is simply no reasonable or rational basis to conclude that the far *more significant* projects at issue in *WEPCO* and the other cases were like-kind replacements at units that had begun normal operations, while at the same time concluding that the substantially *less significant* Colstrip Projects were not like-kind replacements and that Colstrip Units 1 and 4 had not begun normal operations. In fact, Plaintiffs’ own expert, Mr. Trantham, agreed that the *WEPCO* project was “orders of magnitude” more significant than the Colstrip

Projects, and he could articulate no reason why the latter should be treated differently from the former (indeed, prior to being shown the facts of *WEPCO* in his deposition, he had no knowledge whatsoever of the *WEPCO* project, thinking it unimportant to his opinions). The bottom line is, Plaintiffs' request to apply the actual-to-potential test in this case, if granted, would be unprecedented. No court has ever held that the actual-to-potential test should be applied to a replacement project at an electric generating unit. There is no basis for this Court to be the first.

Finally, prior to commencing the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP Turbine Replacement, Defendants asked the Montana Department of Environmental Quality ("MDEQ") whether those projects could be conducted without any PSD permitting, and the MDEQ agreed. If MDEQ had thought there was even a remote possibility that the two turbine projects were so significant that Units 1 and 4 could be deemed to have not begun normal operation, it is inconceivable that MDEQ would have given Defendants the "green light" on those projects.

For all of these reasons, Defendants are entitled to partial summary judgment that, because Plaintiffs have no ability to demonstrate that Units 1 and 4 had not begun normal operations before the Colstrip Projects, they cannot apply the actual-to-potential test to the Colstrip Projects as a matter of law. If the Court so rules, then Defendants are entitled to summary judgment on all of Plaintiffs' claims relating to the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP

Turbine Replacement (Claims 13, 14, 16 & 17), because Plaintiffs have confirmed they are pursuing those claims based *solely* on the actual-to-potential test. Defendants also are entitled to summary judgment on Plaintiffs' claims that they can prove emissions increases using the actual-to-potential test for the Unit 1 Economizer project (Claims 1 and 2).<sup>8</sup>

## **II. FACTUAL BACKGROUND**

### **A. Background Regarding The Begun Normal Operations Test.**

#### *1. The "highly unusual" and "unprecedented" WEPCO project.*

It is important to understand fully the scope of the *WEPCO* project given the Seventh Circuit's and EPA's conclusion that the project was a like-kind replacement on units that were deemed to have begun normal operations for purposes of projecting future emissions based on historical, pre-project operations.

WEPCO's Port Washington Plant in Wisconsin consisted of five coal-fired electric generating units built in the 1930s and 1940s. In July 1987, WEPCO applied to the Wisconsin Public Service Commission for authority to conduct "major renovation maintenance" at Port Washington, including "replacements, modifications and additions" to the five generating units and the plant's common areas. *See* Statement of Undisputed Material Facts in Support of Defendants'

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<sup>8</sup> Defendants have separately moved for summary judgment that Plaintiffs cannot meet their burden under the actual-to-projected actual test for their claims that the Economizer Replacement project would trigger PSD requirements.



Motion for Partial Summary Judgment Regarding Plaintiffs’ Use of the “Actual-to-Potential” Emissions Test (“SOF”) ¶ 1. As WEPCO explained, the overall net capability of the units had declined by 40% and one of the units had been shut down entirely for two years. SOF ¶ 2. The project would consist of multiple component replacements, including (i) replacing the economizer on Unit 1; (ii) replacing the rear steam drum on Units 2, 3, 4 & 5; (iii) replacing the air heater on Units 1, 2, 3, & 4; and (iv) numerous other major activities. *Id.* WEPCO estimated the massive renovation project to cost nearly \$84 million and require consecutive 9-month outages over a four-year period to complete the work. *Id.*

In response to WEPCO’s application for approval of the project, Wisconsin concluded that the project would not require PSD permitting, but asked EPA if it concurred with the state’s view. SOF ¶ 3.

On September 9, 1988, EPA issued a memorandum confirming, among other things, EPA’s position that emissions arising from the *WEPCO* project must be measured under the actual-to-potential test because, under EPA’s interpretation of its 1980 PSD regulations, the renovated units had not begun normal operations. SOF ¶ 4 (citing Memorandum from D. Clay, EPA Acting Assistant Administrator for Air and Radiation, to D. Kee, EPA 7 (Sept. 9, 1988)) (“Clay Memorandum”)

(attached to Wyman Decl. as Ex. 9).<sup>9</sup> EPA observed that the *WEPCO* project was “highly unusual, if not unprecedented, and costly” and its purpose was “to completely rehabilitate aging power generating units whose capacity has significantly deteriorated over a period of years.” *Id.* EPA further noted that the “[p]urpose of the project was to significantly enhance the present efficiency and capacity of the plant and substantially extend its useful economic life.” SOF ¶ 5. By undertaking the refurbishment project, WEPCO sought to increase generation at the plant by roughly 160 MW. SOF ¶ 6 (Units 1-4 to increase generation by a total of 80 MW and Unit 5 to restore full 80 MW capacity). EPA noted that the *WEPCO* project “apparently” would result in a significant net emissions increase “because potential emissions after the project—reflecting the restoration of 80 megawatt capacity at each unit—would greatly exceed representative actual emissions prior to the physical changes.” SOF ¶ 7.

On October 14, 1988, EPA reconfirmed the Clay Memorandum’s conclusions, observing that the *WEPCO* project “will not simply maintain the facilities in their current state, but rather will *significantly enhance their present*

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<sup>9</sup> Further, in the Clay Memorandum, EPA, for the first time, announced that it would determine whether a project is “routine, maintenance, repair, and replacement” (“RMRR”) by looking at the “nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors, to arrive at a common-sense finding.” Clay Memorandum 3 (Wyman Decl. Ex. 9). EPA determined in the Clay Memorandum that the *WEPCO* project was not RMRR.

*efficiency and capacity*, and substantially extend their useful economic life.” SOF ¶ 8.

2. *The Seventh Circuit’s WEPCO Decision.*

WEPCO appealed the EPA’s final decision to the Seventh Circuit. The court “rejected the EPA’s prior interpretation that a modified plant is assumed not to have begun normal operations following a renovation and the actual-to-potential test must always be applied.” SOF ¶ 9. The *WEPCO* court noted that EPA had applied the actual-to-potential test and calculated the plant’s post-project emissions based on “round-the-clock operations (24 hours per day, 365 days per year) because WEPCO *could potentially* operate its facility continuously, despite the fact that WEPCO has never done so in the past.” SOF ¶ 10. The *WEPCO* court was “troubled by EPA’s assumption of continuous operations in calculating the potential to emit at the Port Washington plant.” *Id.* The court “found ‘no support in the regulations for the EPA’s decision wholly to disregard past operating conditions,’ and concluded that if a source already has an established operation, assuming continuous operations as a basis for finding an emissions increase is not appropriate.” SOF ¶ 11.

The Seventh Circuit further noted that “WEPCO does not dispute that its steam drum and air heater replacements will result in an altered plant.” SOF ¶ 12. In fact, the proposed *WEPCO* project included substantial modifications and design changes to improve performance of the Port Washington generating units.

WEPCO planned to “*modify turbine spindle & blading*” on the turbines at each of the five units. SOF ¶ 13. It is a very common practice in the electric utility industry, when replacing such turbine components, to take advantage of improvements in efficiency and reliability that have been incorporated into turbine design over the previous years. *Id.*

In addition, WEPCO planned to change the design of the replacement air heaters in *four* of the units (Units 1, 2, 3 & 4): “*The design of the replacement air heaters* (which were already part of the renovation project) will accommodate proper operation of the flue gas conditioning equipment. The flue gas conditioning equipment and associated air heater work will add approximately \$17 million to the cost of the renovation project and will be completed by the end of 1992.” SOF ¶ 14.<sup>10</sup>

Further, the *WEPCO* project included several other major design changes, including “replacing of existing coal pulverizer mill ducts outlet piping with *upgraded materials*” ; “replacement of the existing data acquisition system with a *modern* Distributed Control System (DCS),” which would “incorporate the *latest*

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<sup>10</sup> As Mr. Golden explains, a unit owner typically adds flue gas conditioning equipment to a unit when switching to low sulfur coal to change the resistivity of the fly ash, making it easier for the electrostatic precipitator or ESP to collect the fly ash. The flue gas temperature also affects the resistivity. Under these circumstances, such changes in air preheater design are typically intended to change the heat transfer characteristics in order to change the temperature of the flue gas entering the ESP. SOF ¶ 14.

*design features*” to “significantly improve the efficiency, safety and reliability of plant operations”; “improving the plant’s water chemistry with the installation of new boiler chemistry and monitoring system”; *upgrading* the plant’s electrical system; and “*upgrading* the electrical controls on the existing precipitators.” SOF ¶ 15. All of these activities done by WEPCO involved design changes and were performed with the expectation of improved performance of the Port Washington generating units. *Id.*

In addition, rear steam drums were replaced on Units 2-5, the economizer was replaced on Unit 1, main and reheat steam piping was inspected and replaced on all units, the auxiliary electrical system was upgraded on Units 1 and 2, and chimney liners were replaced. SOF ¶ 16. WEPCO explained that, as a result of all this work, the renovation would allow the five units to operate for more than 20 additional years (until 2010) and was “expected to improve plant availability, capability, and heat rate.” SOF ¶ 17.

Yet, despite the major design changes, the *WEPCO* court described the *WEPCO* project as a “like-kind replacement.” SOF ¶ 18. The court held that the actual-to-potential test could not be applied to a unit—including a unit undergoing a like-kind replacement—that has an established history of operations from which projections of future operations could be made. *Id.* (“If the source has no actual emissions because it has yet to commence operating, its hypothetical, projected emissions are included in the baseline. *If, however, the source is an established*

*operation, a more realistic assessment of its impact on ambient air quality levels is possible, and thus directed.”*) (emphasis in original)). Thus, notwithstanding the significance of the *WEPCO* project, including its numerous major design changes, the Seventh Circuit held that the project was a like-kind replacement and that the Port Washington units had begun normal operations, meaning post-project emissions could be projected based upon the units’ historical, pre-project operations.

In contrast, the *WEPCO* court also discussed a project that was addressed in a prior decision by the First Circuit in *Puerto Rican Cement Co. v. EPA*, 889 F.2d 292 (1st Cir. 1989). That case involved the replacement of two very old cement kilns with a new kiln that had significantly greater production capacity. *Puerto Rican Cement*, 889 F.2d at 292. The First Circuit had determined that the actual-to-potential test was reasonable under those circumstances to evaluate the “new machinery.” *Id.* at 297. However, the *Puerto Rican Cement* court explicitly distinguished its holding from situations involving existing electric generating units (“EGUs”) like those at issue in *WEPCO* and in this case:

One can imagine circumstances that might test the reasonableness of EPA’s regulation. An electricity company, for example, might wish to replace a peak load generator — one that operates only a few days per year — with a new peak load generator that the firm could, but almost certainly will not, operate every day . . . Whatever the arguments about the “irrationality” of EPA’s interpretation in such circumstances, however, those circumstances are not present here.

*Id.* at 297-98. Likewise, in *WEPCO*, the Seventh Circuit distinguished the project in *Puerto Rican Cement* from the like-kind replacement project in *WEPCO*, describing the cement kiln project as “the construction of a *new* emissions unit at an existing source.” *WEPCO*, 893 F.2d at 917 n.12 (emphasis supplied by court). Thus, unlike the *WEPCO* project, for the “new emissions unit” in *Puerto Rican Cement*, there was no historic, pre-project performance of the unit upon which to project future, post-project emissions. *Id.*

### 3. *EPA’s Response To The WEPCO Decision.*

In response to *WEPCO*, EPA abandoned its original interpretation of the phrase “begun normal operations” and adopted the *WEPCO* court’s conclusion that the actual-to-potential test cannot be applied to “like-kind replacements” or other projects where a unit’s post-project operations can be projected based on the unit’s pre-project operating history. SOF ¶ 19. On remand from *WEPCO*, EPA “decided to acquiesce in the court’s holding rather than seek rehearing,” and to “employ an ‘actual-to-actual’ method to calculate emissions increases for *WEPCO*’s proposed renovations to its Port Washington power plant.” SOF ¶ 20. As this Court observed, the *WEPCO* Remand Letter confirmed that EPA considered “‘like-kind replacements’ to encompass the replacement of components at an emissions unit with the same (*or functionally similar*) components. Under this interpretation of the term, new components that perform *essentially the same function* as the old

ones will be viewed as ‘like-kind replacements.’” August 13 Order at 9 n.3 (quoting WEPCO Remand Letter at 4 n.1); SOF ¶ 21 (emphasis added).

Soon thereafter, EPA promulgated new PSD rules to replace the 1980 rules, stating that the *WEPCO* and *Puerto Rican Cement* decisions “occasion a reexamination of EPA’s interpretation of the phrase” “begun normal operations.” SOF ¶ 22. In the Preamble to the WEPCO Rule, EPA contrasted the ability to project actual emissions from EGUs that had available operating histories and those that did not. For new EGUs and replacement EGUs “there is no relevant operating history,” so “it is not possible to reasonably project post-change utilization for those units.” *Id.* In discussing the “begun normal operations” language in the 1980 rules, EPA explained that the actual-to-potential test was limited to physical or operational changes at EGUs that were “sufficiently significant to support a finding that ‘normal operations’ have not ‘begun.’” *Id.* As for EGUs that had begun normal operations, EPA concluded that its “extensive experience with electric utilities, and the generally similar nature of operations within this source category” provided an adequate basis to predict future actual emissions from such units. SOF ¶ 23. Thus, as EPA explained in the WEPCO Rule Preamble:

[U]nder its current [1980] regulations, EPA must consider the facts of each case and apply the actual-to-potential test only where the change is sufficiently significant to support a finding that “normal operations” have not “begun.” *At least for changes that are “like kind replacements,” “normal*



*operations” have begun, and the actual-to-potential test is impermissible.*

*Id.* (emphasis added). Put simply, EPA confirmed that for like-kind replacements like those at issue in *WEPCO*—*i.e.*, “the replacement of components at an emissions unit with the same (or functionally similar) components”—the actual-to-potential test is impermissible.<sup>11</sup> SOF ¶ 23.

In the *WEPCO* Rule itself, EPA revised the PSD regulations “to apply the actual-to-actual test on all physical or operational changes at electric steam generating units save those that are an addition of a new unit or constitute a replacement of an existing unit.” SOF ¶ 24. Notably, even though Montana did not adopt the *WEPCO* Rule, MDEQ agrees that in most cases the actual-to-projected-actual test should be applied to projects that are less significant than building a new unit or replacing an old one in its entirety:

The Department is likely to agree with EPA that, in most cases, emissions from a change that is less extreme than an addition of a new unit or a replacement of an existing unit at an electrical power plant can be estimated by using the actual-to-projected-future-actual standard adopted in the *WEPCO* rule.

SOF ¶ 26; August 13 Order at 7 (“The MDEQ has also adopted the EPA’s interpretation of ‘begun normal operations.’”).

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<sup>11</sup> Moreover, as noted above, *supra* at 5 n.7, EPA made clear that even projects that are more significant than a like-kind replacement may not trigger the actual-to-potential test. 57 Fed. Reg. at 32,317.

**B. Alleged Facts Regarding The Colstrip Projects Relied Upon By Plaintiffs For The Begun Normal Operations Issue.**

Plaintiffs' position on the begun normal operations issue is set forth in two expert reports prepared by Mr. Trantham. *See* Trantham Expert Report dated September 5, 2014 ("Initial Report") (attached to Wyman Decl. as Ex. 2); Trantham Rebuttal Report dated December 22, 2014 ("Rebuttal Report") (attached to Wyman Decl. as Ex. 3). In his Initial Report, Mr. Trantham sets forth the alleged facts he believes support his opinion that the Unit 1 Economizer Replacement, Unit 1 HP/IP Turbine Replacement, and Unit 4 HP Turbine Replacement were so significant that the respective units cannot be said to have begun normal operations. Although Defendants strongly dispute many of the alleged facts underlying Mr. Trantham's opinions on the begun normal operations issue, solely for purposes of this Motion, the Court can accept Mr. Trantham's version of those facts as true. Those assertions are summarized below.

Mr. Trantham's opinion on the begun normal operation issue is based on "whether the projects were like-kind (in-kind) replacements." Initial Report at 4. To make that analysis, he "look[s] at the overall significance of each project, whether there have been significant design changes from the original equipment installation, and if so, whether the design changes have altered the unit's operational characteristics." *Id.* at 4. However, conspicuously absent from his report is any opinion or statement as to whether the projects in any way preclude

projection of post-project operations or emissions by looking at historical pre-project operations or emissions, which is the entire point of the begun normal operations analysis. Nor does Mr. Trantham opine on whether the replacement components at issue are “functionally similar” to the replaced components. Instead, in assessing the “significance” of the Colstrip Projects, Mr. Trantham inexplicably focuses on factors such as the cost of the project, the frequency of such work, and its purpose. EPA has identified these factors as pertinent to whether a project qualifies as routine maintenance, repair and replacement (“RMRR”). Clay Memorandum at 3 (Wyman Decl. Ex. 9). But Mr. Trantham does not explain, and it is not apparent, how those factors relate in any way to the begun normal operations analysis—*i.e.*, whether post-project emissions can be predicted based on historical, pre-project operations.

*1. Alleged facts regarding the Unit 1 Economizer Replacement.*

Mr. Trantham opines that the Unit 1 Economizer replacement was “clearly not an in-kind or like-kind replacement project” for multiple reasons. Initial Report at 9 (Wyman Decl. Ex. 2). Mr. Trantham opines that the economizer replacement was significant based on his application of the RMRR factors. *Id.* He further opines that the project allowed for a “complete economizer section design change from the original design configuration to reduce the potential for ash pluggage, waterside pressure drop, and the flue gas draft loss,” and “significantly increased the heating surface area by 85.69%.” *Id.* He asserts that the design

changes “were intended to enhance the operational characteristics of the unit and also extend the service life of the unit.” *Id.* He concludes that “this project activity was not maintaining the unit in a status quo condition and therefore not a like-kind or in-kind replacement.” *Id.* However, Mr. Trantham did not dispute that the replacement economizer had the exact same “thermal performance parameters” as the original economizer. Rebuttal Report at 3 (Wyman Decl. Ex. 3). In other words, the economizer’s basic function—heating water to a temperature to match the performance of the boiler—did not change in any way.

2. *Alleged facts regarding the Unit 1 HP/IP Turbine Replacement.*

Mr. Trantham analyzes the “significance” of the Unit 1 HP/IP Turbine Replacement project by focusing on the traditional RMRR factors. Initial Report at 12-13 (Wyman Decl. Ex. 2). Mr. Trantham further opined that the Unit 1 HP/IP Turbine Replacement “incorporated significant design changes from the original equipment installation that altered each unit’s operational characteristics.” *Id.* at 14 (Wyman Decl. Ex. 2). According to Mr. Trantham, “[t]hese changes lead to my conclusion that the project performed would cause the units’ boilers and turbines to operate in a different manner than they had operated before the turbine upgrades with the original turbines.” *Id.* at 13. Although Mr. Trantham opined that the new turbine would operate differently from the original components, he did not dispute in his Reports that the new turbine was “functionally similar” to the turbine that was replaced, or that the new turbine performed the exact same function—

generating electricity from the rotation of the turbine blades—as the old turbine. Nor did he suggest that differences in operating characteristics would in any way interfere with the ability to project future emissions, and in fact agreed that they did not so interfere.

3. *Alleged facts regarding the Unit 4 HP Turbine Replacement.*

Similar to the Unit 1 HP/IP Turbine Replacement, Mr. Trantham analyzes the significance of the Unit 4 HP Turbine Replacement by purporting to apply the traditional RMRR factors. *Id.* at 20-22. Mr. Trantham also asserts that the new HP turbine included design changes that “result[ed] in corresponding significant changes to the operational characteristics” of the unit. *Id.* at 22. In a unique twist to his analysis, however, Mr. Trantham also opines that the Unit 4 HP Turbine Replacement, performed in 2006, must be aggregated with another project performed seven years later, in 2013, when Colstrip installed three new safety valves in the Unit 4 reheater. *Id.* 20-22. Mr. Trantham opines that the new reheat safety valves became necessary when the Unit 4 HP turbine was replaced, because the turbine replacement resulted in increased steam flow through the Unit 4 reheater, and thus, necessitated an increase in relief capacity in the reheater. *Id.* As with the Unit 1 turbine, Mr. Trantham did not dispute in his Reports that the new Unit 4 HP Turbine Replacement was “functionally similar” to the old turbine.

**C. Mr. Trantham's Deposition Testimony Regarding The Begun Normal Operations Issue.**

Mr. Trantham was deposed in this case on February 3-4, 2015. Consistent with his expert reports on the begun normal operation issue, Mr. Trantham testified that Colstrip Units 1 and 4 had not begun normal operations before the Colstrip Projects were done because those projects (i) were significant; (ii) included design changes; and (iii) would cause Units 1 and 4 to operate differently from the way they operated before the projects. As explained above, although Defendants do not agree with those conclusions, the Court may accept them as true solely for purposes of resolving this Motion.

However, Mr. Trantham's deposition testimony also includes critical admissions that must be considered as undisputed for purposes of summary judgment. First, although Mr. Trantham opines that each of the Colstrip Projects would cause Units 1 and 4 to operate differently, he has offered no opinion that each project was so significant that one could not project future emissions based on the historical, pre-project operations of the units:

Q: So, you are not opining that these projects were so significant that one could not project future emissions after the projects based on the historical performance of those units?

A: No. I don't think I made any statements that I recall relative to emissions. . . . I think it was relative to the difference in performance.

SOF ¶ 28. In fact, Mr. Trantham expressly admitted that he does *not* believe that such projections of emissions cannot be performed in this case:

Q: And you're not suggesting, are you, that the changes to the economizer would prevent one from predicting emissions after the Unit 1 economizer project based on data before that project, are you?

A: *No. I'm not saying that, you know, you can't, you can't do a projection or prediction.*

SOF ¶ 29 (emphasis added); *see also id.* (asked if Defendants could have predicted post-project generation based on pre-project expectations for the Unit 1 economizer replacement, Mr. Trantham responded: "I would say yes"). Although Mr. Trantham stated that he is not capable of performing such a projection of future operations himself, he agreed that a utility could simply "employ those with the expertise that could" make such a projection. SOF ¶ 30. Indeed, Mr. Trantham is well aware that utilities are able to predict how a unit will operate after replacing a component. SOF ¶ 31. He testified that Carolina Power & Light ("CP&L"), where he worked for over 30 years, had a planning department devoted to determining how a unit would operate after major projects were conducted. SOF ¶ 31.<sup>12</sup>

Second, Mr. Trantham opined that, in his view, for a replacement to be a "like-kind replacement" for purposes of the begun normal operations analysis, the

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<sup>12</sup> When Mr. Trantham performed his begun normal operations analysis in this case, he had no understanding of the *reason* for conducting that analysis—*i.e.* to determine whether a unit's performance (and thus emissions) after a project could be projected based on the unit's history of operations before the project. *See* Trantham Dep. at 337:8-338:2 (in performing his analysis he "didn't even think about" the ability to predict post-project emissions based on pre-project operations) (Wyman Decl. Ex. 13).

replacement part must be *identical* to the part being replaced. SOF ¶ 32. Consistent with that view, he testified that a like-kind replacement does *not* include replacements that are “functionally similar” to the component being replaced. *Id.*

Third, Mr. Trantham admitted that, in opining on the begun normal operations issue, he did not compare the Colstrip Projects to the like-kind replacement project addressed in the *WEPCO* decision. In fact, Mr. Trantham admitted that he knew absolutely nothing about the scope of the *WEPCO* project or how it might compare to the Colstrip Projects from a begun normal operations standpoint. SOF ¶ 33. He admitted that his only knowledge of the begun normal operations issue was based on reading a single page of the *WEPCO* Rule Preamble (which page he could not identify) and on his discussions with Plaintiffs’ counsel (who directed him to read the single page but nothing else germane to the begun normal operations test). *Id.* Mr. Trantham attempted to excuse his lack of knowledge by claiming that if the facts surrounding the *WEPCO* project were important, then he assumed Plaintiffs’ counsel would have brought them to his attention. *Id.* He claimed that the facts about *WEPCO* were simply not important to his begun normal operations analysis in this case “because *WEPCo* is not Colstrip.” *Id.* However, based on a review of documents discussing the *WEPCO* project during the deposition questioning, Mr. Trantham agreed that the scope of the *WEPCO* project was “orders of magnitude larger” than the Colstrip Projects. *Id.*



**D. Mr. Golden's Undisputed Opinions Regarding The Begun Normal Operations Issue.**

Defendants' expert on the begun normal operations issue, Mr. Golden, submitted his rebuttal report on the begun normal operation issue on November 14, 2014. SOF ¶ 34. Although Mr. Golden disputes nearly every point raised by Mr. Trantham regarding the begun normal operations issue, for purposes of this Motion, Defendants rely solely on Mr. Golden's opinions as to which there is *no dispute* or on which Mr. Trantham expressed *no opinion*. Thus, for purposes of this Motion, regarding the experts' respective opinions, there is no disputed issue of material fact precluding summary judgment.

Most significantly, unlike Mr. Trantham, who was silent on the issue, Mr. Golden expressly opined that the Colstrip Projects "did not result in changes that were so significant *that the units' future operating conditions could not be projected based on their historical operation.*" SOF ¶ 35. For each of the Colstrip Projects, Mr. Golden opined that future operations *could* be predicted based on the historic operations of the unit. SOF ¶ 36 (Unit 1 Economizer Replacement "did not cause such a significant change to the design or operation of Unit 1 *so as to make it exceedingly difficult or impossible to predict future operation based on historic operation*") (emphasis added); *id.* (same conclusion for Unit 1 HP/IP Turbine Replacement); *id.* (same conclusion for Unit 4 HP Turbine Replacement). As discussed above, Mr. Trantham did not contest that one could project the future

operations of Units 1 and 4 based on their historical, pre-project operations. Thus, Mr. Golden's opinions on that issue are not in dispute.

Further, unlike Mr. Trantham, who did not address the issue, Mr. Golden expressly opined that, although each of the Colstrip Projects involved some design changes that made the new equipment operate with some differences, the new components were "functionally similar" to the replaced components. SOF ¶ 37 (Unit 1 Economizer Replacement involved replacement of economizer with functionally similar component; the thermal performance of the replacement economizer was the same as original economizer); *id.* (Unit 1 HP/IP Turbine Replacement "did nothing to affect the purpose and function of the replacement equipment" and "the replacement steam path performs exactly the same function as the steam path it replaced"); *id.* (Unit 4 HP Turbine Replacement "involved the replacement of components with equipment that performed exactly the same purpose and function").

**E. Before Defendants Commenced The Two Turbine Projects, MDEQ Concluded That Those Projects Would Not Trigger PSD**

Prior to undertaking the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP Replacement, Defendants sought MDEQ's confirmation that those projects would not trigger PSD permitting requirements. SOF ¶ 38. Defendants described the two turbine projects to the MDEQ as "efficiency modifications" using new turbines that would "be designed to be more efficient and capture more energy out

of the steam that passes through.” *Id.* Defendants also noted that the two turbine projects were expected to result in increased generation at the respective units. *Id.* Recognizing that the new turbines would be “designed to be more efficient,” MDEQ determined that the turbine projects could be considered *de minimis* projects under the Montana air quality regulations, Mont. Admin. R. 17.8.745. SOF ¶ 39. Because Montana’s regulations on *de minimis* projects exclude those projects that would trigger PSD, MDEQ’s conclusion that the two turbine projects were *de minimis* also means that MDEQ concluded that the two turbine projects would not trigger PSD. SOF ¶ 40 (citing Mont. Admin. R. 17.8.745(1)(ii) (excluding from the definition of *de minimis* those changes that would qualify as a “major modification” under the PSD regulations)). Accordingly, MDEQ could not have believed that these projects were so significant that after they were completed the units had not begun normal operations and were subject to the actual-to-potential test that invariably would cause PSD permitting requirements to apply.

### III. STANDARD OF REVIEW

Summary judgment is appropriate when there are no genuine issues of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a); *see also*, *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986); *Helm v. State of Cal.*, 722 F.2d 507, 509 (9th Cir. 1983). “The purpose of partial summary judgment ‘is to isolate and dispose of factually unsupported claims or defenses.’” *E.piphany, Inc. v. St. Paul Fire & Marine Ins. Co.*, 590 F. Supp. 2d

1244, 1250 (N.D. Cal. 2008) (quoting *Celotex*, 477 U.S. at 323-24). Where there are no disputes of material fact, the court may resolve the proper interpretation of statutes and regulations. *Smith v. Califano*, 597 F.2d 152, 155 n.4 (9th Cir. 1979) (where the parties agree on the material facts, the court may resolve a “dispute involving the proper interpretation of relevant statutes and regulations” as a matter of law); *Helm*, 722 F.2d at 509 (when there are no material issues of fact the court may resolve a question of statutory interpretation to determine whether the statute applies to the facts at hand).

If the dispositive issue is one on which the nonmovant will bear the burden of proof at trial, the moving party satisfies its burden by pointing out that there is insufficient proof concerning an essential element of the nonmovant’s claim. *Celotex*, 477 U.S. at 325. If the moving party meets the initial burden of showing there is no genuine dispute as to material fact, the burden shifts to the nonmoving party to produce evidence or designate specific facts showing the existence of a genuine dispute for trial. *Gasaway v. Nw. Mut. Life Ins. Co.*, 26 F.3d 957, 959 (9th Cir. 1994). When deciding whether a dispute over a material fact is genuine, a court decides whether the evidence is such that a reasonable jury could return a verdict for the non-moving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *Maneely v. Gen. Motors Corp.*, 108 F.3d 1176, 1179 (9th Cir. 1997); *McBryde v. Thomas*, No. CV 12-76-H -DLC, 2014 WL 1713333, at \*3 (D. Mont. Apr. 29, 2014) (Christensen, J.). This assessment is the same as that in deciding a

directed verdict at trial: “whether the evidence presents a sufficient disagreement to require submission to a [trier of fact] or whether it is so one-sided that one party must prevail as a matter of law.” *Anderson*, 477 U.S. at 251-52.

#### IV. ARGUMENT

##### A. **Plaintiffs Do Not Dispute That, Prior To The Colstrip Projects, Operations of Colstrip Units 1 And 4 Could Be Projected Based On Pre-Project Operating History.**

As both the *WEPCO* court and EPA made clear, the entire point of the begun normal operations exercise is to determine whether, prior to a particular project at a unit, one can predict the unit’s future operations, and thus emissions, based on the unit’s historical, pre-project operations and emissions. *WEPCO*, 893 F.2d at 917 (“*If . . . the source is an established operation, a more realistic assessment of its impact on ambient air quality is possible, and thus directed.*”) (emphasis in original); 57 Fed. Reg. at 32,317 (actual-to-potential test only applies to units where “there is no relevant operating history” so “it is not possible to reasonably project post-change utilization for those units”) (Wyman Decl. Ex. 12). Both the *WEPCO* court and EPA further agreed that, for like-kind replacements like the *WEPCO* project, it is assumed that post-project operations can be projected based on pre-project operations. *See, e.g., id.* (“At least for changes that are ‘like kind replacements,’ ‘normal operations’ have begun, and the actual-to-potential test is impermissible.”).

In his expert report, Mr. Golden properly focused on this fundamental point, opining that the Colstrip Projects “did not result in changes that were so significant that the units’ *future operating conditions could not be projected based on their historical operation.*” SOF ¶ 35; *see also* SOF ¶ 36 (Unit 1 Economizer Replacement “did not cause such a significant change to the design or operation of Unit 1 *so as to make it exceedingly difficult or impossible to predict future operation based on historic operation*”) (emphasis added); *id.* (same conclusion for Unit 1 HP/IP Turbine Replacement); *id.* (same conclusion for Unit 4 HP Turbine Replacement). Thus, the actual-to-potential test cannot be applied to the Colstrip Projects because Units 1 and 4 had “established operation[s]” (*WEPCO*, 893 F.2d at 917) decades before the Colstrip Projects were done and, based on that “relevant operating history,” one could “reasonably project post-project utilization for those units.” 57 Fed. Reg. at 32,317 (Wyman Decl. Ex. 12).

In stark contrast to Mr. Golden’s report, in his own expert report, Mr. Trantham did not address the ability to project future operations of Units 1 and 4 based on their historical, pre-project operations. At his deposition, however, Mr. Trantham admitted that one *could* project emissions after the projects. :

Q: And you're not suggesting, are you, that the changes to the economizer would prevent one from predicting emissions after the Unit 1 economizer project based on data before that project, are you?

A: No. I'm not saying that, you know, you can't, you can't do a projection or prediction.

SOF ¶ 29 (emphasis added); *see also id.* (asked if PPL could have predicted post-project generation based on its pre-project expectations for the Unit 1 economizer replacement, “I would say yes”). Mr. Trantham admitted that, in his experience, such projections of future performance *could be made*, by persons with the requisite expertise. SOF ¶ 30. He conceded that utilities *are* able to predict how a unit will operate after replacing a component, and that CP&L, his employer for over 30 years, had a planning department devoted to making such determinations. SOF ¶ 31. In short, Mr. Trantham, Plaintiffs’ only expert on the begun normal operation issue, expressly admitted that (i) not only has he offered no opinion that projections of future performance *cannot* be done for the Colstrip Projects; (ii) he understands that such projections actually *can* be done, by someone with appropriate expertise, as he witnessed during his many years at CP&L.

Mr. Trantham’s admissions are fully consistent with Mr. Golden’s opinions. There is no factual dispute that, prior to the Colstrip Projects, future post-project operations *could be projected* based on historical, pre-project operations of Colstrip Units 1 and 4. Mr. Golden’s opinions on that fundamental issue, which is the entire point of the begun normal operations issue, stand unchallenged by Plaintiffs. Accordingly, Defendants are entitled to summary judgment that Colstrip Units 1 and 4 had begun normal operations and Plaintiffs cannot apply the actual-to-potential test to the Colstrip Projects.

**B. Plaintiffs Do Not Dispute That The Colstrip Projects Involved “Functionally Similar” Replacements.**

Mr. Trantham’s entire analysis of like-kind replacements focuses on whether components replaced are identical and disregards whether they are functionally similar. As this Court previously recognized, “‘like-kind replacement[s]’ include ‘the replacement of components at an emissions unit with the same (*or functionally similar*) components.’” August 13 Order at 9 n.3 (quoting WEPCO Remand Letter at 4 n.1); SOF ¶ 21. Mr. Trantham asserted that the projects were not like-kind unless the replacement part is *identical* to the part being replaced. SOF ¶ 32. But this contradicts this Court’s August 13 Order and the standard set by EPA. Accordingly, Mr. Trantham’s conclusions that the projects were not “like kind replacements” amounts to a mis-application of the legal test.

As a factual matter, Mr. Trantham does not anywhere dispute that the Colstrip Projects involved the installation of new components that were “functionally similar” to the components that were replaced. In fact, regarding the Unit 1 Economizer Replacement, Mr. Trantham confirms that he “did *not* assert that there was a change in the thermal performance parameters” between the original and replacement economizers. Rebuttal Report at 2 (emphasis added) (Wyman Decl. Ex. 3). For the turbine projects, while Mr. Trantham opines that the projects included design changes, he does not dispute that the replacement turbines were “functionally similar” to the components that were replaced. *See, e.g.,*



Rebuttal Report at 6-7 (Trantham responds to Golden’s assertion that the Unit 1 HP/IP Turbine Replacement was “functionally similar” to original components by asserting that the new equipment would affect “operation”) (Wyman Decl. Ex. 3). Indeed, through his agreement that one *could* predict future emissions based on the pre-project operations of Units 1 and 4, Mr. Trantham necessarily must agree that the projects were sufficiently similar in function, since he agreed that projections could still be made. As the Seventh Circuit and EPA recognized, just because a project includes design changes that impact operations—as the *WEPCO* project undisputedly did—does not mean that one cannot predict future emissions based on historical, pre-project operations.

**C. The *WEPCO* Project Demonstrates That The Colstrip Projects Were Like-Kind Replacements And That Units 1 And 4 Had Begun Normal Operation.**

As discussed above, both the Seventh Circuit and EPA recognized that the “highly unusual” and “unprecedented” *WEPCO* project was a like-kind replacement and that, notwithstanding that massive undertaking, the five units at the Port Washington Plant had begun normal operations. *WEPCO*, 893 F.2d at 917; 57 Fed. Reg. at 32,317 (“The [Seventh Circuit in *WEPCO*] coined the phrase ‘like-kind replacement’ to describe the type of renovation occurring at the *WEPCO* plant. . . . At least for changes that are ‘like kind replacements,’ ‘normal operations’ have begun, and the actual-to-potential test is impermissible.”) (Wyman Decl. Ex. 12). In light of the views expressed in *WEPCO* and by EPA, it

is logical to compare the Colstrip Projects to the *WEPCO* project to determine if the Colstrip Projects, like the *WEPCO* project, are like-kind replacements as to which application of “the actual to potential test is impermissible.” Even accepting all of Plaintiffs’ allegations about the Colstrip Projects as true, comparing the *WEPCO* project to the Colstrip Projects demonstrates that the Colstrip Projects are like-kind replacements and that Units 1 and 4 had begun normal operations. Given the overwhelmingly lop-sided nature of the comparison, no reasonable trier of fact could conclude otherwise.

For the Court’s convenience, the chart on the following pages summarizes the comparison of the *WEPCO* project to the Colstrip Projects.

	<b><i>WEPCO</i> PROJECT COMPARED TO COLSTRIP PROJECTS</b>			
	<b><i>WEPCO</i> Project</b>	<b>Colstrip Unit 1 Economizer</b>	<b>Colstrip Unit 1 HP/IP Turbine</b>	<b>Colstrip Unit 4 HP Turbine</b>
<b>SIGNIFICANCE OF PROJECT</b>	• Complete refurbishment of five units	• Replace economizer Unit 1	• Replace HI/IP turbine steam path	• Replace HP turbine steam path
	• Replaced at least ten major components (including an economizer)			
	• Restored 40% capacity at five units, one of which was shut down for two years			

	<b>WEPCO PROJECT COMPARED TO COLSTRIP PROJECTS</b>			
	<b>WEPCO Project</b>	<b>Colstrip Unit 1 Economizer</b>	<b>Colstrip Unit 1 HP/IP Turbine</b>	<b>Colstrip Unit 4 HP Turbine</b>
	• Expected generation increase of roughly 160 MW		• Alleged projected generation increase of 13 MW	• Alleged projected generation increase of 23.7 MW
	• Cost \$70 million	• Cost \$8.4 million	• Cost \$6.3 million	• Cost \$6 million
	• Work takes four years (in five nine-month outages)	• Work completed in 65 days	• Work completed in 32 days	• Work completed in 54 days
<b>DESIGN CHANGES IN PROJECT</b>	• Modified turbines in <i>all five units</i>	• Change economizer fin array from staggered to in-line	• Changes in HP/IP turbine to achieve higher efficiencies and reliability	• Changes to HP turbine to achieve higher efficiencies and reliability
	• Changed design of air heaters in <i>four units</i>	• Increase heating surface; different tube length • No change in thermal performance	• Alleged changes in boundary conditions between boiler and turbine	• Alleged changes in boundary conditions between boiler and turbine
	• Updated plant electrical system			Alleged addition of 3 safety valves in reheater

	<b>WEPCO PROJECT COMPARED TO COLSTRIP PROJECTS</b>			
	<b>WEPCO Project</b>	<b>Colstrip Unit 1 Economizer</b>	<b>Colstrip Unit 1 HP/IP Turbine</b>	<b>Colstrip Unit 4 HP Turbine</b>
	<ul style="list-style-type: none"> <li>• Upgraded electrical controls on precipitators</li> </ul>			
	<ul style="list-style-type: none"> <li>• Installed distributed control system with latest design features</li> </ul>			

For purposes of this Motion, the key point in *WEPCO* is that, despite all of the major changes made in the “highly unusual” and “unprecedented” *WEPCO* project, both the Seventh Circuit and EPA agreed that the project was a like-kind replacement and that post-project emissions resulting from the project could be projected based upon historical, pre-project operations at the Port Washington plant. The *WEPCO* project involved “major renovation maintenance” including “replacements, modifications and additions” to five units. SOF ¶ 1. The overall net capability of the Port Washington Plant had declined by 40 percent. SOF ¶ 2. One of the units had been shut down completely for two years, meaning it had *no operations history* for that period. *Id.* As a result of the project, WEPCO expected to increase generation at the plant by roughly 160 MW. SOF ¶ 6 (Units 1-4 to increase generation by a total of 80 MW and Unit 5 to restore full 80 MW capacity). The project included replacing at least *ten* major components, including

(i) the economizer on Unit 1; (ii) rear steam drums on Units 2, 3, 4 & 5; (iii) air heaters on Units 1, 2, 3, & 4; and (iv) numerous other major activities. SOF ¶ 2. There was no evidence that steam drums had *ever* been replaced in the industry, let alone *four* of them as part of one project. *WEPCO*, 893 F.2d at 912. The renovation was “expected to improve plant availability, capability, and heat rate,” and to allow the five units to operate for more than 20 additional years. SOF ¶ 17. EPA concluded that the *WEPCO* project “will not simply maintain the facilities in their current state, but rather will *significantly enhance their present efficiency and capacity*, and substantially extend their useful economic life.” SOF ¶ 8. By any measure, all of these factors demonstrate that the *WEPCO* project was far more significant than the work done at Colstrip. Only one conclusion can reasonably be drawn: if pre-project operations at the Port Washington plant could be used to estimate post-project emissions after the massive *WEPCO* project, then it is simply inconceivable that such projections could not be made for much less significant Colstrip Projects.

While Mr. Trantham focuses heavily on alleged design changes included in the Colstrip Projects, he does not dispute that the replacement components at issue were “functionally similar” to the components they replaced. For example, Mr. Trantham conceded that the new economizer had the exact same “thermal performance parameters” as the original economizer, meaning the economizer’s basic function did not change. Rebuttal Report at 3 (Wyman Decl. Ex. 3).

Similarly, while Mr. Trantham opined that the new turbines in Units 1 and 4 would operate more efficiently than the original components, he did not dispute that the new turbines were “functionally similar” to the equipment they replaced. He did not dispute that the new turbines performed the exact same basic function as the old ones—generating electricity from the rotation of the turbine blades.

Even accepting all of Mr. Trantham’s allegations about design changes as true, the changes included in the Colstrip Projects were unquestionably less significant than the array of design changes included in the *WEPCO* project, a subject on which Mr. Trantham failed to render any opinions whatsoever. SOF ¶ 33. As the Seventh Circuit stated, “WEPCO does not dispute that its steam drum and air heater replacements will result in an altered plant.” SOF ¶ 12. The *WEPCO* project included modifications to the turbines on *all five units*. SOF ¶ 13 (emphasis added). The *WEPCO* project also included design changes to the air heaters on *four* of the units. SOF ¶ 14. Further, the *WEPCO* project included several other major design changes, including “replacing of existing coal pulverizer mill ducts outlet piping with *upgraded materials*”; “replacement of the existing data acquisition system with a *modern* Distributed control system (DCS),” which would “incorporate the *latest design features*” to “significantly improve the efficiency, safety and reliability of plant operations”; “improving the plant’s water chemistry with the installation of new boiler chemistry and monitoring system” ; *updating* the plant’s electrical system; and “*upgrading* the electrical controls on the

existing precipitators.” SOF ¶ 15. Yet, despite all of these significant design changes and modifications, both the Seventh Circuit and EPA concluded that post-project emissions at the Port Washington plant could be projected based on historical, pre-project operations. There is simply no reasonable or rational basis to conclude that the substantially more significant design changes in the *WEPCO* project involved a like-kind replacement on units that had begun normal operations, while at the same time concluding that the less significant Colstrip Projects are not like-kind replacements or that Colstrip Units 1 and 4 had not begun normal operations. Based on a comparison to *WEPCO*, no reasonable trier of fact could conclude that post-project emissions at Colstrip could not be projected based on the historical operations of Colstrip Units 1 and 4.

Mr. Trantham’s begun normal operations analysis is largely devoted to applying the traditional RMRR factors—the nature, extent, purpose, frequency and cost of the projects. But Mr. Trantham fails to explain how any of those factors has any bearing on the fundamental question posed by the begun normal operations test: whether post-project emissions can be projected based on pre-project operations. As the Seventh Circuit impliedly recognized, the RMRR factors have no bearing on that issue. *See WEPCO*, 893 F.2d at 912, 917 (despite finding that *WEPCO* project was not routine under the RMRR factors, court found that project was not so significant that units had not begun normal operation).

Even if one were to consider the RMRR factors here, they simply reinforce that the Colstrip Projects are dwarfed by comparison to the *WEPCO* project, which was nonetheless found to be a like-kind replacement. Although Mr. Trantham knew nothing about the *WEPCO* project when he prepared his reports and rendered his opinions, when educated on those facts during his deposition, he acknowledged that the *WEPCO* project was “orders of magnitude” more significant than the Colstrip Projects. SOF ¶ 33. Each of the Colstrip Projects involved the replacement of a *single* component at the applicable unit, not *ten* major components and a host of other substantial changes, as was the case with the *WEPCO* project. The cost (\$70 million<sup>13</sup>) and duration (four years) of the *WEPCO* project were orders of magnitude more significant than the Colstrip Projects: the Unit 1 Economizer Replacement cost \$8.4 million and took 65 days to complete; the Unit 1 HP/IP Turbine Replacement cost \$6.3 million and took 32 days; and the Unit 4 HP Turbine Replacement cost \$6 million and was completed in 54 days. *See* Golden Decl. ¶ 27 (attached to Wyman Decl. as Ex. 17).

In the end, a simple comparison to the *WEPCO* project demonstrates that the Colstrip Projects fall comfortably within the definition of like-kind replacements and that Colstrip Units 1 and 4 had begun normal operations. Accordingly, as

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<sup>13</sup> The \$70 million cost of the *WEPCO* project is in 1988 dollars. Adjusted for inflation, the cost would have exceeded \$103 million in 2001 and \$134 million in 2012.



confirmed by the Seventh Circuit and EPA, the actual-to-potential test may not be applied to the Colstrip Projects as a matter of law.

**D. Comparison To Projects In Post-WEPCO Cases Demonstrates That The Colstrip Projects Were Like-Kind Replacements And That Units 1 and 4 Had Begun Normal Operations.**

As this Court recognized, “a number of courts have applied the actual-to-projected-actual test to projects completed under the 1980 regulations.” Findings & Recommendation at 54 (Doc. 112). In fact, since *WEPCO*, multiple courts have applied the actual-to-projected-actual test to projects performed at EGUs under the 1980 PSD regulations (or state regulations tracking the 1980 rules), even where those projects involved component replacements that were far more significant (including major design changes) than the Colstrip Projects.<sup>14</sup> Just like the *WEPCO* comparison discussed above, comparing the “significance” of the projects in those cases to the Colstrip Projects demonstrates that the Colstrip Projects were like-kind replacements and that Colstrip Units 1 and 4 had begun normal operations. In all of those cases, the courts held that projects at EGUs were not so

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<sup>14</sup> See *United States v. Ohio Edison Co.*, 276 F. Supp. 2d 829 (S.D. Ohio 2003); *United States v. Cinergy*, 384 F. Supp. 2d 1272 (S.D. Ind. 2005) *aff’d* 458 F.3d 705 (7th Cir. 2006); *United States v. Duke Energy Corp.*, 278 F. Supp. 2d 619, 640 n.17 (M.D.N.C. 2003) *aff’d* 411 F.3d 539 (4th Cir. 2005) *vacated sub nom. Env’tl. Def. v. Duke Energy Corp.*, 549 U.S. 561 (2007) and *vacated in part on other grounds*, No.1:00CV1262, 2010 WL 3023517 (M.D.N.C. July 28, 2010); *Nat’l Parks Conservation Ass’n, Inc. v. Tenn. Valley Auth.* (“TVA”), No. 3:01-CV-71, 2010 WL 1291335 (E.D. Tenn. 2010) (holding there is “no compelling legal basis for the “actual-to-potential methodology”).

significant as to preclude reliance on the units' historical operations to project future emissions, and thus, the units were deemed to have begun normal operations. No case involving an EGU unit has ever held otherwise. Those unanimous rulings compel the same result here.

In *Ohio Edison*, applying the 1980 PSD rules, the court held that the “actual-to-potential test is not legally supportable” for a lengthy list of major replacement projects, many of which were far more significant than the Colstrip Projects, including far more significant design changes. *Ohio Edison Co.*, 276 F. Supp. 2d at 863. The *Ohio Edison* court provided a chart listing the numerous major projects and design changes at issue. *See, e.g., id.* at 856-857 (among many other projects, the work included “Replaced and *Redesigned Economizer*” at Units 6 & 7, “Replaced and *Redesigned Horizontal Reheater*” at Units 1 & 2, and “Replaced and *Redesigned Entire Vertical Tube Furnace with Spiral Tube Furnace* at Unit 5) (emphasis added). Further, “[t]he entire furnace on Unit 5 was *replaced with a unique spiral tube design furnace*,” which was “required to remedy design problems with the original furnace” and was the “*first of its kind* on a coal-fired unit in the United States.” *Id.* at 858 (emphasis added). The court also found that Ohio Edison had replaced the “CR-77 pulverizers” at Unit 6 with “*new MPS pulverizers* due to long history of maintenance problems.” *Id.* at 846. The court noted that “[t]he MPS pulverizers were installed to reduce maintenance costs, increase unit availability and *improve heat rate and additional peaking megawatts*

*capacity.*” *Id.* at 846 (emphasis added). Finally, Ohio Edison spent \$6.3 million to replace the low pressure turbine rotors at Unit 7 with new ruggedized rotors due to design defects. *Id.* at 847-48. The cost of some of the *Ohio Edison* projects ranged as high as \$22-\$33 million (*id.* at 861-2) and took as long as 21 weeks to 8.5 *months* to complete. *Id.* at 857 (chart)

Despite the enormous scope of these projects and the substantial design changes they entailed, the *Ohio Edison* court refused to apply the actual-to-potential test. As this Court observed, the *Ohio Edison* court “found that because it was clear the plant ‘was operational at the time the activities were proposed, . . . any use of the actual to potential to emit test [was] not legally supportable.” Findings & Recommendation at 54 (Doc. 112) (quoting *Ohio Edison*, 276 F. Supp. 2d at 863). Given that finding, and a simple comparison of the *Ohio Edison* projects to the *less significant* projects at issue here, there is no basis to conclude that Units 1 and 4 at Colstrip were not “operational at the time the [Colstrip Projects] were proposed.” *Id.* Thus, there is no basis to apply the actual-to-potential test.

Similarly, in *Cinergy*, the court applied the actual-to-projected-actual test under the 1980 PSD rules to a broad array of component replacement projects. 384 F. Supp. 2d at 1277. In a separate opinion, the *Cinergy* court described the projects as including substantial design changes. *United States v. Cinergy Corp.*, 495 F. Supp. 2d 909, 916 (S.D. Ind. 2007) (Project at Beckjord Unit 3 cost \$16.3 million,

took 13 weeks to complete and “resulted in ‘modifications or replacements’ of approximately forty-nine components” “involving ‘modifications,’ ‘improvements,’ ‘upgrading,’ ‘restor[ation],’ ‘extensive remodeling,’ ‘extensive improvements,’ and a ‘complete overhaul’” and “[s]ome components were upgraded or even modified”); *id.* at 917 (Project at Beckjord Unit 2 cost \$19.1 million and resulted in “‘modifications or replacements’ of fifty-seven distinct components” and “[s]ome of the changes involved *redesigned or upgraded parts.*”) (emphasis added); *id.* at 917-18 (Project at Beckjord Unit 1 cost \$20 million, “took fifteen weeks to complete and resulted in ‘modifications or replacements’ of fifty-nine components”; “the project entailed ‘extensive modifications’ in order to convert the unit to ‘cyclic operation and to provide for high availability and reliability during its extended life’ beyond the expected normal retirement date and to provide the unit with ‘levels of reliability, availability and efficiency consistent with a new unit.’”); *id.* at 923-24 (Gallagher Unit I work included *newly designed* pulverizers resulting in a 7 MW gain in capacity due to elimination of derates); *id.* at 925 (discussing design changes to Gibson Unit 2 reheater). And these are just *some* of the projects to which the court applied the actual-to-projected-actual test. If the actual-to-projected-actual test was applied to the far more significant *Cinergy* projects—meaning one could estimate post-project emissions based on pre-project operations—then that test plainly must apply to the *less significant* Colstrip Projects.

Likewise, in *Duke Energy*, the court applied the actual-to-projected-actual test, rather than the actual-to-potential test, to 29 projects performed under the 1980 PSD regulations. 2010 WL 3023517, at \*5 (“[T]he actual-to-projected-actual test will be used to determine whether Duke Energy should have sought a pre-project permit for any of the projects at issue.”). As the *Duke Energy* court described the projects in a prior opinion, “the majority of the projects consisted of replacement and/or *redesign* of one or more of four sets of boiler tube assemblies—economizers, portions of waterwalls, superheaters, and reheaters.” 278 F. Supp. 2d at 623-24 (emphasis added). One of the projects was described by EPA as “involving the replacement of the ‘*entire boiler backpass* (including the screen tubes, generating banks, and superheater) . . . with a *completely redesigned configuration*.’” *Id.* at 624 n.3 (emphasis added) (quoting EPA brief). Yet, despite the magnitude of these projects and the design changes they entailed, EPA ultimately “agree[d] that the actual-to-projected-actual test is the appropriate standard.” 2010 WL 3023517, at \*6. Again, if the units in *Duke Energy* were considered to have begun normal operations despite major “redesigned” component replacements and a “completely redesigned configuration” of an “entire boiler backpass,” then clearly the same result must apply to the *less significant* Colstrip Projects.

Finally, in *TVA*, the court observed that “Courts have clearly rejected applicability of an ‘actual-to-potential’ test for units like the Bull Run plant which

have begun normal operation.” 2010 WL 1291335, at \*4. Accordingly, the *TVA* court did not apply the actual-to-potential test to TVA’s replacement of an economizer and superheater, despite the fact that the superheater replacement included design changes. *Id.* at \*27, 28. The court observed, “[a]s Mr. [Jerry] Golden testified, replacing a component, or a portion of a component, at a unit sometimes involves considering whether a better product is available that performs the same function. . . . That was the case here.” *Id.* at \*27.

Each of these cases involved major component replacements with design changes that were at least comparable to, and in most instances far more significant than, the Colstrip Projects, and they all entailed design changes that, while substantial, involved functionally similar components. Despite the magnitude of those projects and design changes, however, the court in each instance applied the actual-to-projected-actual test, rather than the actual-to-potential test. Thus, in each instance, one could estimate post-project emissions based on historical, pre-project operation of the units, notwithstanding the significance of the projects and the design changes. Like the *WEPCO* project comparison discussed above, a simple comparison of the Colstrip Projects to the projects in those cases dictates that the same result should apply here. *See* Declaration of Jerry L. Golden in Support of Defendants’ Motion for Partial Summary Judgment Regarding Plaintiffs’ Use of the “Actual-to-Potential” Emissions Test (“Golden Decl.”) ¶ 26 (attached to Wyman Decl. as Ex. 17).

**E. MDEQ's Conclusion That The Turbine Projects Were *de minimis* Demonstrates That Those Projects Were Like-Kind Replacements And That Units 1 And 4 Had Begun Normal Operations.**

Prior to undertaking the Turbine Projects, Defendants sought MDEQ's confirmation that these projects would not trigger PSD permitting requirements. SOF ¶ 38. In seeking MDEQ's confirmation, Defendants informed MDEQ that the Turbine Projects included design changes and that new turbines were expected to increase generation of Units 1 and 4, respectively, as a result of improvements in efficiency. *Id.* MDEQ subsequently determined that the Turbine Projects were *de minimis* projects under the Montana air quality regulations. SOF ¶ 39.

By definition, a *de minimis* project cannot be a major modification under the Montana PSD regulations. *See* 17.8.745(1)(a)(iii) (excluding from the definition of *de minimis* those changes that would qualify as a major modification under Montana's PSD regulations). Therefore, MDEQ's conclusion that the Turbine Projects were *de minimis* projects is predicated on MDEQ's conclusion that the Turbine Projects would not trigger PSD. Had MDEQ believed that the Turbine Projects were so significant that the Colstrip units had not begun normal operations as Plaintiffs' allege, then the actual-to-potential test would have applied, which almost certainly would have triggered PSD, and certainly would have warranted follow-up inquiry from MDEQ. Thus, in reaching the conclusion that the Turbine Projects were *de minimis* and therefore did not trigger PSD, MDEQ must have concluded that Units 1 and 4 had begun normal operations.

## **V. CONCLUSION**

For the foregoing reasons, Defendants request that their motion for partial summary judgment be granted and that Plaintiffs be precluded from applying the actual-to-potential test to the Colstrip Projects. Further, because Plaintiffs have withdrawn all claims that any emissions test other than the actual-to-potential test may apply to the Unit 1 HP/IP Turbine Replacement and the Unit 4 HP Turbine Replacement, Plaintiffs' Claims 13, 14, 15 and 17 relating to those two projects should be dismissed in their entirety.



Dated: May 26, 2015

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### **CERTIFICATE OF COMPLIANCE**

The undersigned certifies that this memorandum complies with the requirements of Rule 7.1(d)(2) as modified by the Court's April 27, 2015 Order. The lines in this document are double spaced, except for footnotes and quoted and indented material, and the document is proportionately spaced with Times New Roman font typeface consisting of 14 characters per inch. The total word count is 11,939 excluding caption, certificate of compliance, signature block, tables of contents and authorities, and exhibit index. The undersigned relies on the word count of the word processing system used to prepare this document.

/s/ Christine G. Wyman

Christine G. Wyman